

What is claimed is:

1 1. A power distribution system comprising:

2 (a) a power distribution block including a plurality of conduction paths having two  
3 opposite ends; and

4 (b) a plurality of connectors of a plurality of types;

5 wherein the power distribution block and connectors are configured such that  
6 connectors of any of the types can be removably coupled to at least one of the  
7 conduction paths at either end thereof.

1 2. The system of claim 1 wherein each end of each conduction path can be connected  
2 both electrically and mechanically to no more than one connector.

1 3. The system of claim 1 wherein the conduction paths are disposed substantially  
2 parallel to each other.

1 4. The system of claim 1 wherein the plurality of connectors includes more connectors  
2 than can be simultaneously coupled to the conduction paths.

1 5. The system of claim 1 wherein each connector of a first type includes a plurality of  
2 mating interfaces, and wherein:

3 (a) the mating interfaces are couplable to a plurality of respective ends of adjacent  
4 conduction paths; and

5 (b) the mating interfaces are coupled together within each respective connector.

1 6. The system of claim 5 wherein each connector of a second type has a single mating  
2 interface.

1 7. The system of claim 1 wherein:

2 (a) each connector of a first type includes one or more mating interfaces that are  
3 couplable to cable having a circular cross section; and

4 (b) each connector of a second type includes one or more mating interfaces that are  
5 couplable to cable having a non-circular cross section.

1 8. The system of claim 1 wherein the power is transmitted with electrical current and  
2 the power distribution block includes a plurality of electrical conductors.

1 9. The system of claim 8 further comprising a plurality of fuses, each electrical  
2 conductor being interrupted by one or more fuses that are interconnected in parallel.

1 10. The system of claim 1 further comprising a packaging shell, the shell including  
2 recesses configured to house the power distribution block and the plurality of  
3 connectors, respectively.

1 11. A method for configuring the transmission of power between a plurality of  
2 connectors, the method comprising:

3 (a) providing a power distribution block including a plurality of conduction paths  
4 disposed substantially parallel to each other, each conduction path having a  
5 respective first end and a second, opposite end;

6 (b) providing a plurality of removable connectors of a plurality of types; and

7 (c) selecting two or more connectors from the plurality and coupling the selected  
8 connectors to one or more of the conduction paths at the ends thereof such that at  
9 least one of the conduction paths has a different type of connector at each of its  
10 opposite ends.

1 12. The method of claim 11 wherein the plurality of connectors includes more  
2 connectors than can be simultaneously coupled to the conduction paths.

1 13. The method of claim 11 wherein each connector of the first type includes a plurality  
2 of mating interfaces coupled together within the connector, the method further

3 comprising coupling the mating interfaces to a plurality of first ends of adjacent  
4 conduction paths.

1 14. The method of claim 13 wherein each connector of the second type has a single  
2 mating interface, the method further comprising coupling the mating interfaces of a  
3 plurality of connectors of the second type to second ends of the adjacent conduction  
4 paths.

1 15. The method of claim 11 wherein:

2 (a) each connector of the first type includes one or more mating interfaces that are  
3 couplable to cable having a substantially circular cross section; and

4 (b) each connector of the second type includes one or more mating interfaces that  
5 are couplable to cable having a non-circular cross section.

1 16. The method of claim 11 wherein the power is transmitted with electrical current and  
2 the power distribution block includes a plurality of electrical conductors.

1 17. The method of claim 16 further comprising interrupting each electrical conductor by  
2 one or more fuses, multiple fuses for a given conductor being interconnected in parallel.

1 18. Apparatus for interconnecting a plurality of parallel fuses, the apparatus  
2 comprising:

3 (a) a column of fuse receptacles, each of the receptacles including first and second  
4 terminals;

5 (b) a first electrical conductor coupling together the first terminals of the receptacles  
6 and leading from a first end of the column of fuse receptacles; and

7 (c) a second electrical conductor substantially parallel in orientation with the first  
8 electrical conductor, the second electrical conductor coupling together the second  
9 terminals of the receptacles and leading from a second end, opposite the first end,  
10 of the column of fuse receptacles.

1 19. The apparatus of claim 18 further comprising:

2 (a) a second column of fuse receptacles that each include third and fourth terminals;

3 (b) a third electrical conductor coupling together the third terminals of the  
4 receptacles and leading from a first end of the second column of fuse receptacles;  
5 and

6 (c) a fourth electrical conductor substantially parallel in orientation with the third  
7 electrical conductor, the fourth electrical conductor coupling together the fourth  
8 terminals of the receptacles and leading from a second end, opposite the first end,  
9 of the second column of fuse receptacles.

1 20. The apparatus of claim 19 further comprising first and second arrays of mating  
2 interfaces, wherein:

3 (a) each mating interface in the first array is coupled to an electrical conductor of a  
4 first plurality that includes the first and third electrical conductors;

5 (b) each mating interface in the second array is coupled to an electrical conductor of  
6 a second plurality that includes the second and fourth electrical conductors; and

7 (c) the first and second arrays are disposed at opposite ends of the matrix of fuse  
8 receptacles.

1 21. The apparatus of claim 18 wherein the fuse receptacles are oriented substantially  
2 parallel to each other.

1 22. The apparatus of claim 18 wherein:

2 (a) the fuse receptacles are formed as recesses in a block of rigid, substantially non-  
3 conductive material; and

4 (b) the first and second terminals for each respective fuse receptacle are at opposite  
5 ends of a respective recess.

1 23. The apparatus of claim 18 wherein the fuse receptacles are configured to receive  
2 automotive fuses.

1 24. A method for transmitting electrical current through a plurality of parallel fuses, the  
2 method comprising:

3 (a) arranging a plurality of fuses in an array wherein the fuse orientations are  
4 substantially parallel to each other;

5 (b) passing electrical current into and out of the array in a direction substantially  
6 perpendicular to the fuse orientations; and

7 (c) transmitting electrical current through each fuse of the plurality.

1 25. Apparatus for fusing a plurality of electrical conduction paths, the apparatus  
2 comprising:

3 (a) a matrix of fuse receptacles having a plurality of columns and a plurality of  
4 rows, each receptacle having first and second terminals;

5 (b) a first plurality of electrical conductors coupling together the first terminals of  
6 the receptacles in each column; and

7 (c) a second plurality of electrical conductors coupling together the second  
8 terminals of the receptacles in each column;

9 whereby the fuse receptacles in each column are electrically connected in parallel.

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26. The apparatus of claim 25 further comprising first and second arrays of mating interfaces, wherein:

(a) each mating interface in the first array is coupled to an electrical conductor of the first plurality of electrical conductors;

(b) each mating interface in the second array is coupled to electrical conductor of the second plurality of electrical conductors; and

(c) the first and second arrays are disposed at opposite ends of the matrix of fuse receptacles.

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27. The apparatus of claim 25 wherein the fuse receptacles are oriented substantially parallel to each other.

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28. The apparatus of claim 25 wherein:

(a) the fuse receptacles are formed as recesses in a block of rigid, substantially non-conductive material; and

(b) the first and second terminals for each respective fuse receptacle are at opposite ends of a respective recess.

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29. The apparatus of claim 25 wherein the fuse receptacles are configured to receive automotive fuses.



1 30. An electrical connector comprising:

2 (a) a first portion fabricated from conductive material and including a substantially  
3 circular first aperture; and

4 (b) a second portion molded from nonconductive material and including a  
5 substantially rectangular second aperture, wherein:

6 (1) the area of the second aperture is larger than the area of the first  
7 aperture; and

8 (2) the first and second apertures are substantially coaxial.

1 31. The connector of claim 30 wherein the first and second apertures are dimensioned  
2 to receive a selected type of insulated electrical cable of standard cross-sectional  
3 dimensions, the insulated electrical cable including a plurality of conductive wire  
4 strands and an insulated portion surrounding the wire strands, wherein:

5 (a) the first portion of the connector is dimensioned to receive the plurality of wire  
6 strands; and

7 (b) the second portion of the connector is dimensioned to receive the insulated  
8 electrical cable including the wire strands.

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